Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Coronavirus Disease 2019 (COVID-19) Precautions: What the MRI Suite Should Know

Radiology departments worldwide are attempting to mitigate the impacts of the coronavirus disease 2019 (COVID-19) pandemic, primarily through social distancing and patient triage to image only the most critical patients with CT scan, MRI, or other imaging modalities [1]. In a recent article, we reviewed the droplet precautions for radiology departments with regard to acute respiratory syndrome coronavirus 2 [2]; however, there are natural concerns regarding possible airborne transmission of the COVID-19 in the MR suite.

Based upon standard designs, MRI rooms and corresponding control rooms have positive air pressure, forcing bulk air out of the MRI area without allowing it to circulate back into the room. This reduces particle accumulation on all equipment in the MRI room and is designed to displace airborne pathogens out of the room and into the immediate vicinity (ACR safety zone II). However, this can theoretically lead to transmission of airborne pathogens into ACR safety zone II.

The current guidelines recommend the minimum application of six air changes per hour in hospital setting to prevent infection spreading in the health care facility. For aerosol generating procedures, increasing the air changes to 12 per hour is recommended [3]. In one study, increasing the air changes from 6 to 12 per hour reduced the possibility of contracting infectious agents in other patients in the same hospital unit by 58% [4]. A recommended minimum air changes per hour of six can minimize the risk of acute respiratory syndrome coronavirus 2 transmission, based on the experience at the Department of Radiology at the University of Washington, Seattle, the first epicenter of the COVID-19 outbreak in the United States [5].

It appears that airborne transmission is unlikely inside CT and MR scanner rooms. A 60-min aeration time followed by a standard disinfecting protocol in an MRI room is recommended by ACR after contact with a COVID-19 patient [1]. The institutional guidelines at University of Southern California and University of California, Los Angeles, mandate wiping down the bay and patient-contact surfaces in MRI suites with approved disinfectant wipes after scanning every patient and adding a downtime of 1 hour after scanning any patient under investigation or confirmed COVID-19 patient. In addition, we recommend closing the waiting areas (ACR safety zone II) of MR suites to decrease the risk of airborne transmission of the virus. All the department staff should adhere to personal protective equipment guidelines at all times during COVID-19 pandemic. According to the University of Southern California guidelines, personal protective equipment should be replaced after scanning any patient under investigation or confirmed COVID-19 patient. Meanwhile, those who need to enter the magnet room (ACR safety zone IV) should use MR-safe personal protective equipment.

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